# Design Assumptions for Nebraska Base Drawing NE100-40-003 Concrete Pipe Support for Metal Pipe

Revised: 07/01 Replaces: 5001-16

## **Concrete Pipe Support for Metal Pipe**

Standard length is 8ft., if a longer pipe support is required, contact the State Office Engineering Design Staff.

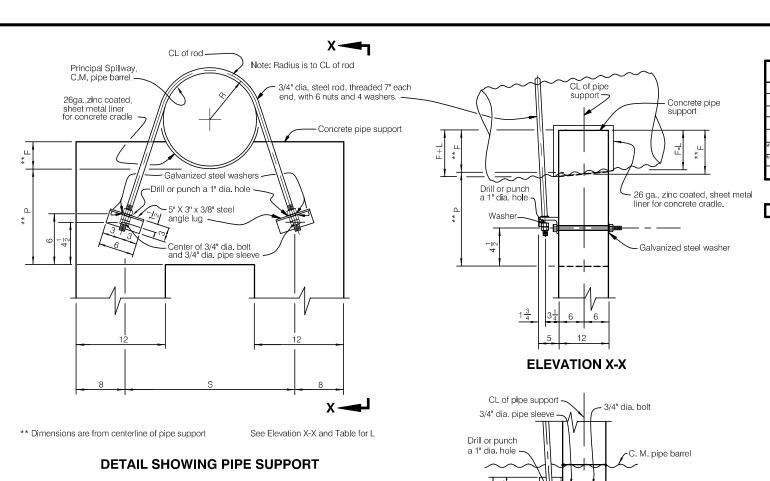
# Instructions for Nebraska Base Drawing NE100-40-003 Concrete Pipe Support for Metal Pipe

Fill in the following data fields to automatically fill in the necessary data fields on the drawing.

| Title block                            |
|--|
| Title line(s)                          |
| Subtitle line                          |
| County, State                          |
| Sheet number of                        |
| Who / When                             |
| Designed                               |
| Drawn                                  |
| Checked                                |
| Enter for Requirement Table on drawing |
| Pipe Diameter =                        |
| Concrete Class =                       |
| Concrete Volume (CU.YDS.) =            |
| Reinforcing Steel (lbs.) =             |
|  |

# Click Grade Box for Grade and L Dimensions Table on drawing

Grade (%) 1 2 3 4 5 6 7 L (inches) 1/16 1/8 3/16 1/4 5/16 3/8 7/16



## **DIMENSIONS**

|     | INSIDE PIPE DIAMETERS |         |              |      |              |          |         |              |         |         |  |  |
|-----|-----------------------|---------|--------------|------|--------------|----------|---------|--------------|---------|---------|--|--|
|     | 16"                   | 18"     | 20"          | 21"  | 24"          | 30"      | 36"     | 42"          | 48"     | 54"     |  |  |
| Я   | 0-8 1/2               | 0-9 1/2 | 0-10 1/2     | 0-11 | 1-0 1/2      | 1-3 1/2  | 1-6 1/2 | 1-9 1/2      | 2-0 1/2 | 2-3 1/2 |  |  |
| S   | 2-8                   | 2-8     | 2-8          | 2-8  | 2-8          | 3-2      | 3-8     | 4-2          | 4-8     | 5-2     |  |  |
| Т   | 7 <b>-</b> 9          | 7-9     | 7 <b>-</b> 9 | 7-9  | 7 <b>-</b> 9 | 7-9      | 8-0     | 8-2          | 8-2     | 8-5     |  |  |
| С   | 4-0                   | 4-0     | 4-0          | 4-0  | 4-0          | 4-6      | 5-0     | 5 <b>-</b> 6 | 6-0     | 6-6     |  |  |
| Ε   | 2-0                   | 2-0     | 2 <b>-</b> 0 | 2-0  | 2-0          | 2-6      | 3-0     | 3-6          | 4-0     | 4-6     |  |  |
| **F | 0-9                   | 0-9     | 0-9          | 0-9  | 0-9          | 0-9      | 1-0     | 1-0          | 1-0     | 1-3     |  |  |
| **P | 1-0                   | 1-0     | 1-0          | 1-0  | 1-0          | 1-0      | 1-0     | 1-2          | 1-2     | 1-2     |  |  |
| Υ   | 0-9                   | 0-9     | 0-9          | 0-9  | 0-9          | 0-10 1/2 | 1-0     | 0-9          | 0-10    | 0-11    |  |  |

## NUMBER OF MARK 2 BARS REQUIRED IN EACH FACE

| 5       | 5       | 5        | 5     | 5        | 5         | 5        | 7 |
|---------|---------|----------|-------|----------|-----------|----------|---|
| ** DIME | NOIDNS. | ARE ERON | 4 CEN | JTERLINE | OF PIPE S | I IPPORT |   |

SEE ELEVATION X-X AND TABLE FOR L.

- 1. ALL RODS, BOLTS, NUTS, WASHERS, PIPE SLEEVES, AND STEEL ANGLE LUGS SHALL BE GALVANIZED OR PAINTED IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
- 2. ALL DIMENSIONS SHOWING DISTANCE FROM STEEL TO FACE OF CONCRETE DESIGNATE THE CLEAR DISTANCE.
- 3. PIPE SUPPORT CRADLE SHALL FIT GRADE AND PIPE CIRCUMFERENCE OF OUTSIDE PIPE DIAMETER.

## **MATERIAL LIST**

|  |           | DIDE     | 0011      | 3/4" DIA |        |          |              |               |      |                     |  |
|--|-----------|----------|-----------|----------|--------|----------|--------------|---------------|------|---------------------|--|
| 14" X 3/4" DIA. 12" X 3/4" INSIDE ANGLE LL<br>STEEL BOLTS, NUTS, DIA, GALVANIZED |           |          |           |          |        | JG       | PIPE<br>DIA. | CON-<br>CRETE |      | H 6 NUTS<br>/ASHERS |  |
| AND WA   |           | PIPE SLE |           | 5"       | INCHES | CU.YD.   |              | WT.(LB.)      |      |                     |  |
| NO REQ.  | WT.(LB.)  |          |           | NO. REQ. | LENGTH | WT.(LB.) | 16           | ┨             | 5-8  | 8.5                 |  |
| NO. REQ.   | VVI.(LD.) | NO. REQ. | WT.(LB.)  | NO. REQ. | LENGIN | WI.(LD.) | 18           |               | 5-10 | 8.7                 |  |
| 2  | 4.0       | 2        | 2.3       | 2        | 20     | 1,11     | 6-6          | 9.8           |      |                     |  |
|  |           |          |           |          |        |          | 21           |               | 6-6  | 9.8                 |  |
|  |           |          |           |          |        |          | 24           |               | 7-0  | 10.5                |  |
|  |           |          |           |          |        |          | 30           | 1.18          | 8-4  | 12.5                |  |
|  |           |          |           |          |        |          | 36           | 1.30          | 9-8  | 14.5                |  |
|  |           | 42       | 1.41      | 11-3     | 16.9   |          |              |               |      |                     |  |
|  | BA        | 48       | 1.50      | 12-7     | 18.9   |          |              |               |      |                     |  |
|  |           | 54       | 1.70      | 13-9     | 20.7   |          |              |               |      |                     |  |
|  |           |          | 2" long — |          |        |          |              |               |      |                     |  |

# TYPE 1 TYPE 2

### BAR SCHEDULE PER PIPE SUPPORT

| BAR SCHEDULE PER PIPE SUPPORT |      |      |       |                  |        |      |     |              |     |        |          |  |
|-------------------------------|------|------|-------|------------------|--------|------|-----|--------------|-----|--------|----------|--|
| PIPE                          | MARK | SIZE | QUAN- | LENGTH           | TOTAL  | TYPE | A   | В            | G   | TOTAL  | BAR      |  |
| DIA.                          |      |      | TITY  | FTIN.            | LENGTH |      |     |              |     | LENGTH | WT.(LB.) |  |
| 16"                           | 1    | 6    | 8     | 3-6              | 28-0   | 1    |     |              |     |        |          |  |
|                               | 2    | 6    | 10    | 2 <b>-</b> 6     | 25-0   | 1    |     |              |     |        |          |  |
| THRU                          | 3    | 6    | 8     | 9-3              | 74-0   | 2    | 1-0 | 8-3          |     | 175-0  | 222.3    |  |
| 24"                           | 4    | 6    | 2     | 6-0              | 12-0   | 2    | 1-3 | 3-6          | 1-3 |        |          |  |
| 24                            | 5    | 3    | 12    | 3-0              | 36-0   | T1   |     |              |     |        |          |  |
|                               | 1    | 6    | 8     | 4-0              | 32-0   | 1    |     |              |     |        |          |  |
| 0.011                         | 2    | 6    | 10    | 2 <del>-</del> 6 | 25-0   | 1    |     |              |     |        |          |  |
| 30"                           | 3    | 6    | 8     | 9-3              | 74-0   | 2    | 1-0 | 8-3          |     | 180-0  | 229.8    |  |
|                               | 4    | 6    | 2     | 6-6              | 13-0   | 2    | 1-3 | 4-0          | 1-3 |        |          |  |
|                               | 5    | 3    | 12    | 3-0              | 36-0   | T1   |     |              |     |        |          |  |
|                               | 1    | 6    | 8     | 4-6              | 36-0   | 1    |     |              |     |        |          |  |
|                               | 2    | 6    | 10    | 2-6              | 25-0   | 1    |     |              |     |        | 240.3    |  |
| 36"                           | 3    | 6    | 8     | 9-6              | 76-0   | 2    | 1-0 | 8-6          |     | 187-0  |          |  |
|                               | 4    | 6    | 2     | 7-0              | 14-0   | 2    | 1-3 | 4-6          | 1-3 |        |          |  |
|                               | 5    | 3    | 12    | 3-0              | 36-0   | T1   |     |              |     |        |          |  |
|                               | 1    | 6    | 8     | 5-0              | 40-0   | 1    |     |              |     |        |          |  |
|                               | 2    | 6    | 14    | 2-6              | 35-0   | 1    |     |              |     |        |          |  |
| 42"                           | 3    | 6    | 8     | 9-8              | 77-4   | 2    | 1-0 | 8-8          |     | 203-4  | 264.8    |  |
|                               | 4    | 6    | 2     | 7 <b>-</b> 6     | 15-0   | 2    | 1-3 | 5 <b>-</b> 0 | 1-3 |        |          |  |
|                               | 5    | 3    | 12    | 3-0              | 36-0   | T1   |     |              |     |        |          |  |
|                               | 1    | 6    | 8     | 5 <b>-</b> 6     | 44-0   | 1    |     |              |     |        |          |  |
| 48"                           | 2    | 6    | 14    | 2-6              | 35-0   | 1    |     |              |     |        |          |  |
| 48"                           | 3    | 6    | 8     | 9-8              | 77-4   | 2    | 1-0 | 8-8          |     | 208-4  | 272.3    |  |
|                               | 4    | 6    | 2     | 8-0              | 16-0   | 2    | 1-3 | 5-6          | 1-3 |        |          |  |
|                               | 5    | 3    | 12    | 3-0              | 36-0   | T1   |     |              | Ш   |        |          |  |
|                               | 1    | 6    | 8     | 6-0              | 48-0   | 1    |     |              |     |        |          |  |
| C 411                         | 2    | 6    | 14    | 2-6              | 35-0   | 1    |     |              |     |        |          |  |
| 54"                           | 3    | 6    | 8     | 9-11             | 79-4   | 2    | 1-0 | 8-11         |     | 215-4  | 282.9    |  |
|                               | 4    | 6    | 2     | 8-6              | 17-0   | 2    | 1-3 | 6-0          | 1-3 |        |          |  |
|                               | 5    | 3    | 12    | 3-0              | 36-0   | T1   |     |              |     |        |          |  |

## REQUIREMENT TABLE

| PIPE DIAMETER      | INCHES |
|--------------------|--------|
| CONCRETE: CLASS    |        |
|                    | CU YDS |
| REINFORCING STEEL: | LBS.   |

## **GRADE AND L DIMENSIONS**

| X BOX —    |      |     |      |     |      |     |      |
|------------|------|-----|------|-----|------|-----|------|
| GRADE (%)  | 1    | 2   | 3    | 4   | 5    | 6   | 7    |
| L (INCHES) | 1/16 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 |



NE100-40-003.dwg

Drawing No.

**CONCRETE PIPE SUPPORT FOR METAL PIPE** 

PIPE SUPPORT FOR 16" THRU 54" DIA. PIPE BARRELS

FRONT ELEVATION

\*\* Dimensions are from centerline of pipe support

CL of pipe support

Concrete pipe support

**TOP VIEW** 

Steel angle lug

3 1 @ 12

SECTION A-A

See Elevation X-X and Table for L

Drill or punch holes for 3/4" dia. bolts —

NO. 3 BAR = 3/8" DIA. O.376 LB./FT. NO. 6 BAR = 3/4" DIA. 1.502 LB./FT.